

Attorney Docket No.: UMD-1.0-042 (UMD-0048)
Inventors: Kiron M. Das
Serial No.: 09/512,515
Filing Date: February 24, 2000
Page 2

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-30 (canceled).

Claim 31 (previously presented): An *in vitro* immunoassay method for diagnosing human colonic type gastric intestinal metaplasia which comprises the steps of:

(a) contacting a gastric tissue sample of a subject suspected of having human colonic type gastric intestinal metaplasia cells with a monoclonal antibody DAS-1, or a fragment thereof, wherein the monoclonal antibody is produced by a hybridoma deposited under ATCC accession number HB 9397 and reacts with a human gastric intestinal metaplasia antigen, wherein the antigen is a colon epithelial specific protein and wherein the gastric tissue sample is not a gastric cardia; and

(b) detecting immunoreactivity between the gastric tissue sample and the monoclonal antibody, such immunoreactivity indicating a positive diagnosis of human colonic type gastric intestinal metaplasia.

Attorney Docket No.: UMD-1.0-042 (UMD-0048)
Inventors: Kiron M. Das
Serial No.: 09/512,515
Filing Date: February 24, 2000
Page 3

Claim 32 (previously presented): The method according to claim 31, wherein the monoclonal antibody or the fragment thereof is directly attached to a detectable label.

Claim 33 (previously presented): The method according to claim 31, wherein detecting immunoreactivity is performed by an immunoperoxidase staining, an immunofluorescence, an immunolectronmicroscopy, or an ELISA.

Claim 34 (previously presented): The method according to claim 31, wherein the immunoassay method is an immunoperoxidase staining.

Claim 35 (previously presented): The method according to claim 31, wherein the immunoperoxidase staining comprises:

- (a) deparaffinizing the gastric tissue by heating;
- (b) immersing the deparaffinized tissue in xylene;
- (c) rehydrating the tissue in decreasing concentrations of alcohol;
- (d) washing the rehydrated tissue in neutral PBS;
- (e) reducing the aldehydes of the washed tissue of step (d);

Attorney Docket No.: UMD-1.0-042 (UMD-0048)
Inventors: Kiron M. Das
Serial No.: 09/512,515
Filing Date: February 24, 2000
Page 4

(f) reacting the tissue with normal goat serum, the monoclonal antibody, biotinylated goat anti-mouse antibody and avidin-biotin-peroxidase complex;

(g) treating the reacted tissue with diaminobenzidine;

(h) washing the diaminobenzidine-treated tissue;

(I) staining the washed tissue of step (h) with hematoxylin, eosin or both; and

(j) examining the stained tissue under a microscope to detect the presence of immunoreactivity.

Claim 36 (previously presented): The method according to claim 35, which further comprises the step of trypsinizing the gastric tissue after reducing the aldehydes in the tissue but before reacting the tissue with the normal goat serum, the monoclonal antibody, biotinylated goat anti-mouse antibody and avidin-biotin-peroxidase complex.

Claim 37 (previously presented): The method according to claim 35, wherein the decreasing concentrations of alcohol used for rehydration are 100%, 95%, 70%, and 50% alcohol.

Claim 38 (previously presented): The method according to claim 31, further comprising the step of performing a negative control assay on a negative control sample and comparing results

Attorney Docket No.: UMD-1.0-042 (UMD-0048)
Inventors: Kiron M. Das
Serial No.: 09/512,515
Filing Date: February 24, 2000
Page 5

of the gastric tissue sample with the results of the negative control sample, wherein the presence of human colonic type gastric intestinal metaplasia cells in the gastric tissue sample over the absence of human colonic type gastric intestinal metaplasia cells in the negative control sample indicates a positive diagnosis of human colonic type gastric intestinal metaplasia.

Claim 39 (previously presented): The method according to claim 31, further comprising the step of performing a positive control assay on a positive control sample to detect human cells of colonic type gastric intestinal metaplasia present in the positive control sample.

Claim 40 (previously presented): An in vitro immunoassay method for screening for human colonic type gastric intestinal metaplasia, wherein reactivity with a monoclonal antibody DAS-1 is indicative of a predisposition for gastric carcinoma, which comprises the steps of:

(a) contacting a gastric tissue sample of a subject suspected of having human colonic type gastric intestinal metaplasia cells with the monoclonal antibody DAS-1, or a fragment thereof, wherein the monoclonal antibody DAS-1 is

Attorney Docket No.: UMD-1.0-042 (UMD-0048)
Inventors: Kiron M. Das
Serial No.: 09/512,515
Filing Date: February 24, 2000
Page 6

produced by the hybridoma deposited under ATCC accession number HB 9397 and reacts with a human gastric intestinal metaplasia antigen, and wherein the gastric tissue is not a gastric cardia; and

(b) detecting immunoreactivity between the gastric tissue and the monoclonal antibody, such immunoreactivity indicating a positive diagnosis of human colonic type gastric intestinal metaplasia.

Claim 41 (previously presented): The method according to claim 40 wherein the human gastric intestinal metaplasia antigen is a colon epithelial specific protein.

Claim 42 (previously presented): The method according to claim 41, wherein the monoclonal antibody or the fragment thereof is directly attached to a detectable label.

Claim 43 (previously presented): The method according to claim 41, wherein detecting immunoreactivity is performed by an immunoperoxidase staining, an immunofluorescence, an immunoemicroscopy, or an ELISA.

Claim 44 (previously presented): The method according to claim 41, wherein the immunoassay method is an immunoperoxidase staining.

Attorney Docket No.: UMD-1.0-042 (UMD-0048)
Inventors: Kiron M. Das
Serial No.: 09/512,515
Filing Date: February 24, 2000
Page 7

Claim 45 (currently amended): The method according to claim 44, wherein the immunoperoxidase staining comprises:

- (a) deparaffinizing the gastric tissue by heating;
- (b) immersing the deparaffinized tissue in xylene;
- (c) rehydrating the tissue in decreasing concentrations of alcohol;
- (d) washing the rehydrated tissue in neutral PBS;
- (e) reducing the aldehydes of the washed tissue of step (d);
- (f) reacting the tissue with a normal goat serum, the monoclonal antibody, a biotinylated goat anti-mouse antibody and an avidin-biotin-peroxidase complex;
- (g) treating the reacted tissue with diaminobenzidine;
- (h) washing the diaminobenzidine-treated tissue;
- (i) staining the washed tissue of step (h) with hematoxylin, eosin or both; and
- (j) examining the stained tissue under a microscope to detect the presence of immunoreactivity.

Claim 46 (previously presented): The method according to claim 45, which further comprises the step of trypsinizing the gastric tissue after reducing the aldehydes in the tissue but before reacting the tissue with the goat serum, the monoclonal

Attorney Docket No.: UMD-1.0-042 (UMD-0048)
Inventors: Kiron M. Das
Serial No.: 09/512,515
Filing Date: February 24, 2000
Page 8

antibody, the biotinylated goat anti-mouse antibody and the avidin-biotin-peroxidase complex.

Claim 47 (previously presented): The method according to claim 46 wherein the decreasing concentrations of alcohol used for rehydration are 100%, 95%, 70%, and 50% alcohol.

Claim 48 (previously presented): The method according to claim 46, further comprising the step of performing a negative control assay on a negative control sample and comparing results of the gastric tissue sample with the results of the negative control sample, wherein the presence of human colonic type gastric intestinal metaplasia cells in the gastric tissue sample over the absence of human colonic type gastric intestinal metaplasia cells in the negative control sample indicates a positive diagnosis of human colonic type gastric intestinal metaplasia.

Claim 49 (previously presented): The method according to claim 46 further comprising the step of performing a positive control assay on a positive control sample to detect human cells of colonic type gastric intestinal metaplasia present in the positive control sample.